»MESSENGER RNA» IN EXPERIMENTAL GRANULOMAS

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We have tried to identify messenger RNA specific for collagen by studying rapidly labelled RNA in experimental granulomas.

Nucleic acids were labelled in vivo and in vitro with ^{32}P-phosphate and ^{3}H-cytidine, and extracted by a modified phenolmethod, first at +20°C. In order to release rapidly labelled RNA from nuclear-chromosomal material a second extraction was performed at +65°C (Georgiev and Mantieva, Biochimiya 27, 805, 1962). Ribosomal RNA together with rapidly labelled RNA was purified by salting-out with 3 *M* sodium acetate, and analyzed in sucrose-density-gradient ultracentrifugation and chromatography on methylated albumin-kieselguhr (MAK). The distribution of radioactive phosphate in the nucleotides was determined after an alkaline hydrolysis. Collagen-producing granulomas (18 day old) were compared with those which were not yet producing collagen (6 day old).

The following features were found in collagen-producing granulomas: (1) a RNA fraction of 22S which was labelled most rapidly; (2) the rapidly-labelled RNA was extracted efficiently at +65°C and it was eluted in MAK-chromatography at a relatively low salt concentration which indicates high G- and C-content. The distribution of ^{32}P among the nucleotides of this fraction was very uneven.